

USAWC STRATEGY RESEARCH PROJECT

**DEFENSE READINESS REPORTING SYSTEM: A BETTER WAY TO MEASURE
READINESS?**

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ABSTRACT

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Is there a better way to measure defense readiness? This SRP examines the Defense Readiness Report System (DRRS) to see if it (a) provides an objective assessment of capabilities to meet the mission priorities established by the Office of the Secretary of Defense (OSD) (b) meets the objectives of the National Security Strategy prescribed by the President and (c) carries out the objectives of the National Military Strategy by the Chairman of the Joint Chiefs of Staff. This SRP then analyzes DRRS indicators of lagging, coincident, and leading to determine their validity for measuring readiness. Finally, this SRP considers the relevance of assessing Mission Essential Task List (METL) to accomplish a Combatant Commanders' (CCDR) mission.

DEFENSE READINESS REPORTING SYSTEM: A BETTER WAY TO MEASURE READINESS?

Ready for What?

A review of the literature regarding measuring defense readiness begs the rhetorical question—ready for what?¹ A survey of the Internet from site to site or blog to blog confirms that the word “readiness” is cast about frequently. In today’s security environment, the readiness condition of units deploying to OIF is constantly raised by opponents of the war. In fact, the Chairman of the Defense Appropriations Subcommittee, Representative John Murtha, has stated that he will “build a case on readiness” to show why the recent surge of troops in Iraq cannot be sustained.² His definition of readiness focuses on preparedness, raising questions about how many returning veterans have been counseled on post-traumatic stress. Are questions such as Murtha’s considered by our service commanders as part of the readiness assessment of forces? The Defense Readiness Reporting System (DRRS) seeks to answer this question and others by asking “Is your organization ready today to execute its assigned missions, is it ready to bring the expected capabilities to the joint fight?”³

The simplicity of DRRS for the Chairman of the Joint Chiefs of Staff (CJCS) is that it utilizes one system to extract the requirements to evaluate the overall readiness rather than simply reporting the data from multiple databases. So the CJCS relies on DRRS, which establishes a measurement of readiness through mission assessments by Department of Defense (DoD) components such as Combatant Commanders (CCDRs), Combat Support Agencies (CSAs), and Services. The cornerstone of this system lies with the assessment of mission essential tasks among these DoD components. This SRP considers past studies that have found deficiencies in readiness reporting, examines the challenges and opportunities facing the new readiness reporting system, and recommends an indicator approach to forecasting and analyzing readiness. A reliable assessment of readiness must answer the following questions:

- What is readiness?
- What were the deficiencies in the readiness reporting system?
- What do readiness indicators mean?
- Does the system predict our readiness to execute a mission?

Background

In 1998, the United States Congress directed the Secretary of Defense that the “readiness reporting system shall measure in an objective, accurate, and timely manner the capability of the Armed Forces to carry out” the national and military strategies of the President, Secretary of Defense and the Chairman of the Joint Chiefs of Staff.⁴ By law, the readiness system will measure.^{5 6}

- Units⁷ capability to conduct a wartime mission
- Critical war fighting deficiencies in unit capability
- Level of current risk to units’ capability to carry out its wartime mission

Definitions: What Is Readiness?

For this paper, readiness is defined as “the ability of U.S. military forces to fight and meet the demands of the NMS” as they operate singly or jointly.⁸ Operating singly, units’ readiness is determined by personnel, equipment, training and supply; operating jointly, units’ readiness is determined by the ability of the Combatant Commander to execute his mission with apportioned forces to enhance their capabilities.⁹

Deficiencies In Readiness Reporting

Before DRRS, the readiness reporting system lacked three critical pieces—a centralized database, a way to measure “ready for what,” and a capability measurement. Although a Joint Quarterly Readiness Review (JQRR) was established, it lacked a central source of information from which to gather information. It depended on several databases from the different services to assess readiness. DRRS now fixes this problem and provides a database which by means of the Senior Readiness Oversight Council (SROC) can conduct a timely assessment.

Another missing component was a way to measure “ready for what.” Although the Services had developed their own task list, the application of the UJTL was missing. In fact, the Army had developed Mission Training Plans, outlining tactical tasks, conditions, and standards. In order for DRRS to work, a UJTL was needed to undergird the database. The publication of the Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3500.04C (UJTL 4.2) revised in 2002 by DoD not only identified joint tasks but also provided conditions and standards from which CDRs could produce a valid metric.

In 2000, the Institute for Defense Analyses published a comprehensive report calling for improvements in the military’s readiness reporting system. At that time, the primary failure of the reporting system was an inability to measure capability.¹⁰ The report stated that “the readiness reporting system needs to measure the capability of the Armed Forces to carry out

the full spectrum of missions identified in the NSS, NMS, and DPG/CPG.”¹¹ The new readiness reporting system, DRRS, serves as more than a unit status report measuring personnel numbers, maintenance hours, or inventory status. Rather, DRRS captures capabilities and readiness assessments using Mission Essential Task (MET) constructs and identifies force structure deficiencies.¹² Although legacy measurements for resources remain in DRRS, the new assessment of METs enables new measurements, indicators, to be developed and used with a dynamic database to predict the future readiness of units.

What Do Readiness Indicators Mean?

If we look at the Services we can identify three categories of indicators to assess and predict readiness: Lagging, Coincident and Leading. Borrowing from the definitions established by The Conference Board, which prepares the monthly U.S. economic indicators, I have adapted the following definitions for readiness reporting.

First, lagging indicators follow an event. Additionally, in measuring preparedness, the Coast Guard has relied on lagging indicators, “a measurement, or series of measurements that reflect past performance.”¹³ For example if an air crew’s qualification rating is falling, it may indicate that the unit is conducting wartime missions and there is not time to train the core tasks. In other words, lagging indicators represent the “cost of doing business”¹⁴ such as a change in unit’s overall personnel qualification rating. So a sharp increase in a lagging indicator may indicate an “imbalance in rising costs,”¹⁵ warranting a shift in allocating resources such as time to future training. The lagging indicator tends to be dismissed because it assigns significance to a past event. However, it is important to realize that a lagging indicator conforms to a readiness cycle; it serves as a warning that the nation’s forces may be declining in readiness.

Second, coincident indicators occur at the same time of the event. While the air crew at war may be deficient in its core tasks, an assessment of its wartime tasks may show that it is qualified to perform the mission.

Third, leading indicators predict a change. For example, DoD uses “recruiting and retention forecasts along with survey results and labor market effects such as unemployment rate and relative military compensation” as leading indicators for meeting personnel strength goals.¹⁶ Another example of a leading indicator is found with the Coast Guard. Leading indicators are composed of key success factors, which were identified by rank ordering 230 issues according to their importance in responding to an oil spill. “Issues greater than one standard deviation above the mean were dropped”¹⁷ to arrive at groupings of seven categories—similar to METL development. The comparison of a key success factor category to

an essential task list is captured in the definition that defines “key success factors as activities that an organization must do right to succeed.”¹⁸ Thus, this definition affirms that the METL is a leading indicator for determining the readiness of the unit to accomplish missions.

In the other Services, the theory that increased training will lead to increased readiness has proven to be a leading indicator for both Navy and Air Force bombing missions.¹⁹ However, the Army has relied on quantifiable metrics such as “Drive the Miles,” which refers to Army initiatives to establish criteria for dollars for miles driven by tanks. In the case of units preparing for the National Training Center (NTC), miles driven, personnel stability, and home station training sites’ similarity to NTC were variables considered in evaluating NTC performances. Personnel stability was disregarded because all units must stabilize before a rotation; however, the other metrics were used. Positive correlation was established with miles driven for defensive operations; however, no other correlations could be established between the criterion and successful outcomes.²⁰ Although this metric is not included in DRRS, the study has been cited to justify funds for the Army’s training budget.²¹

The Training Systems Research Division of the Army Research Institute for the Behavioral and Social Sciences (ARI) was tasked to measure unit readiness through a series of leading indicators.²² Leading indicators for training were defined as “home station determinants,” such as establishing and following a METL for a NTC rotation.²³ At NTC, Hiller one of the advisors at ARI, recommended using such objective measures as the number of casualties suffered or inflicted to rate mission outcome.²⁴ Additionally, he realized that each mission would have different criteria, so he established a composite index to score the “overall effectiveness of each mission.”²⁵

In measuring the effectiveness in the Air Force, leaders have suggested that a high peacetime OPTEMPO has a negative impact on the Air Force ability to deliver troops and materiel in war. In 2005, RAND suggested that the Air Force did not have a measurement that served as a leading or lagging indicator of stresses that impact readiness. So the RAND study recommended a metric “to predict, detect, or identify stresses or their causes.” This metric is called “mission-day.”²⁶ It “measures the availability of crewmembers to fly missions while continuing needed training and other activities.”²⁷ The paradox of war for the Air Force is that readiness declines while units are out conducting wartime missions. The time to conduct qualification training for air crews is reduced. Subsequently, the time after the war is used to train new aircrews.²⁸ Likewise, during peacetime operations an increase in the OPTEMPO draws away from the quality of aircrew qualification training. Thus the mission-day metric lends itself to being a leading indicator, because a rise in mission-days indicates a subsequent rise in

stress—“high OPTEMPO, additional duties, and time away from home station.”²⁹ Thus the mission-day metric establishes a threshold limit which indicates the Air Force ability to perform peacetime duty without affecting its wartime readiness.³⁰

In the Navy the indicator for aircraft was also missing. A correlation between aviation materiel readiness—i.e., the inventory of Common Support Equipment (CSE)—and inventory control was studied to see if there were any leading indicators that would predict this association.³¹ If there is a correlation between the inventory and the aircraft status, then the efficiencies associated with maintaining an accurate inventory will not only improve fleet readiness—a strategic objective—but also enables the Navy to being a good steward of DoD finances, since nearly 50 percent of the DoD budget is logistics.³² Not only does the Navy lack a measurement for CSE but it also faces the problem of changing a culture that resists new systems to improve readiness such as “just-in-time” logistics.³³ The Navy would need a new cultural paradigm to accept Fed Ex deliveries to a warship even in peacetime.

Unfortunately, the hypothesis that there was a correlation between inventory control and aviation materiel readiness has been disproved. In fact, there was a direct inverse relationship between aircraft readiness and inventory control in the Marines. The root cause of the inverse relationship appears to be the tolerated “work-arounds” that allow support crew to use “field expedient” methods to keep the aircraft flying.³⁴ Thus the need for a particular inventory item is obviated. The only correlation between inventory control and aircraft readiness was found in the fixed wing unit.³⁵ Quite likely, inventory control for the fixed wings was focused on maintaining each aircraft because of its price tag of \$40 million. However, the absence of a correlation across the activities—Intermediate Maintenance Activity, Rotary Wing and Fixed Wing—invalidates the inventory control metric.

In assessing overall readiness, Combatant Commands are required to determine the capability of their forces to be employed across a full range of military operations. Thus, in preparing for full-spectrum operations, the command requires a system in which readiness is continually assessed. DRRS will provide this continuous update to two systems: Global Status of Resources and Training (GSORTS) and Collaborative Force-Building Analysis, Sustainment and Transportation (CFAST) to determine unit readiness for specific flexible deterrent options (FDOs). This system will determine if a unit is ready or not ready to execute the assigned mission. However, DRRS pulls data from a static database—one in which units have “hand jammed data.” Accordingly, the current method “precludes maintaining an accurate picture of current posture and is of little value in forecasting status.”³⁶ In the future, however, DRRS will be linked to the recently developed Enhanced Status of Resources and Training System

(ESORTS), a dynamic database that provides near real-time information. So CCDRs will now have access to more relevant readiness data.³⁷

Will DRRS Accurately Predict Our Readiness To Execute A Mission?

Following the review of METL assessments and various Service Component measurements, we consider whether DRRS meets the challenges of predicting readiness. Although DRRS provides a centralized database, it lacks a composite index for compiling the assessments. Individual indicators for tasks are collected, but not compiled with other components of a leading index, for example, to predict mission success. Consequently, readiness indicators are neither compiled nor correlated with a readiness cycle. The relationship between predicting whether we can execute the assigned mission is not done through a series of indices, but through a scenario-based exercise.

The stated goal of DRRS is found on its home page: “[Defense] Department-wide collaboration and cooperation by all stakeholders, who must be aware of the capabilities, interdependencies, and possibilities made available by the enhanced DRRS environment.”³⁸ Is DRRS meeting the needs of its stakeholders (CCDRs, JCS, CJCS, and the Secretary of Defense)? DRRS purports that it is “changing how we look at readiness, how we measure readiness, and how we use readiness information.”³⁹

The inchoate merger of readiness reporting systems has given us DRRS. The mission of DRRS is two fold—conceptual and technical:

The mission of DRRS is to establish a mission focused, capabilities-based, common framework that provides the Combatant Commanders, military services, Joint Chiefs of Staff (JCS), and other key DoD users a data-driven environment and tools in which to evaluate, in near real-time, the readiness of U.S. Armed Forces to carry out assigned and potential tasks.⁴⁰

The second mission found in the user’s software manual addresses the technical mission: “To merge the existing stove pipe readiness reporting systems, add the data driven readiness reporting capabilities, and create the necessary tools to support operational planning.”⁴¹

DRRS software enables the Combatant Commander to build a force to respond against an anticipated contingency. The ad-hoc feature of the software allows the supported command to view the assessment with respect to current mission ratings and resources allocations (personnel and equipment).⁴² DRRS essentially allows a command to build a METL that supports the higher command’s essential tasks but at the same time nests the METL to the CCDR’s JMETL based on the Universal Joint Task List.

The assessment of the METL is based on the commander's subjective assessment.⁴³ The assessment (Y, Q or N) of tasks is based on meeting objective standards. The web-based database for DRRS comes pre-loaded with validated tasks, but the resulting ease of selection may over simplify the issue of readiness. If the tasks, conditions, or standards do not meet the needs of an organization, the unit may change them. Consequently, only validated METs may be chosen for the METL. Validated METs have at least one task, condition, and standard.⁴⁴ Missions too may be added or deleted to support a commander's strategy.

An additional feature within the DRRS is the Balanced Scorecard, which is used to assess internal ratings of a unit's personnel, equipment and supplies.⁴⁵ Thus, the criteria within a management improvement system may be incorporated into the readiness system.

Overcoming the deficiency of different ratings for joint training readiness, DRRS links the mission essential tasks from one command to another down to the unit level.⁴⁶ From the UJTL a set of core tasks are chosen from Strategic National Tasks to Strategic Theater Tasks. These tasks are then adopted by DoD components as missions from which METLs are derived and assessed. The universal tasks thus line up underneath a range of missions, which themselves have universal standards. The challenge with the standard is that each user establishes different threshold criteria to achieve a Y, Q or N. Consequently,

there are no set algorithms or weighting factors in the DRRS assessment process. As far as the DRRS assessment is concerned, higher commanders are given the flexibility to make a subjective overall assessment based on their own judgment as to the importance of each of these tasks to the accomplishment of the command METL.⁴⁷

Thus, the DRRS system fails to meet the intent of the law, which stipulates that "readiness reporting system shall measure in an **objective**,[emphasis added] accurate, and timely manner the capability of the Armed Forces to carry out" the national and military strategies of the President, Secretary of Defense and the Chairman of the Joint Chiefs of Staff.⁴⁸ To correct this deficiency, I recommend adopting a series of composite indices of indicators to prevent the commands from looking at one indicator and setting off a false alarm or crying wolf at any upturn or downtick in a measurement.⁴⁹ Applying a simple rule (such as declaring unreadiness as three consecutive months of a downturn in a leading indicator) can be useful, but such rules must be used only to indicate a general trend to confirm a unit's status in its readiness cycle. For a complete and valid picture, such a shortcut or rule of thumb should be used in conjunction with an assessment of "the Three D's—the duration, depth and diffusion of the leading indicators."⁵⁰ In analyzing a downturn in readiness, we can look at the three D's: Duration: How long has the unit's readiness been this way? Depth: What is the percentage of

downward change? Diffusion: How widespread was the change across the components of the leading index? Predicting such a downturn in unit readiness is not simple. But using this approach, we provide the experienced commander with a better tool to enable him to assess readiness and fix readiness issues.

But does the DRRS system really meet the objectives of providing an objective evaluation of the capability of the U.S. Armed Forces in an accurate manner? The internal measurements of supply inventory, personnel numbers, and maintenance hours are as accurate as the input to the system. But the Navy's inventory of Common Support Equipment has been shown to be inaccurate; therefore, the validity of the data in the database is suspect. The other data for personnel and maintenance tends to be more reliable than supply data. However, capability should not be equated to resources. "Instead, measures will be just—that measures."⁵¹ Commanders are again left to interpret the capability of the resources to provide mission success. Again, the objectivity required by Congress is lacking in this assessment of a capability. However, to fill this gap DRRS provides an opportunity to create composite and diffusion indices not only from the METL tasks but also from the objective data of personnel, equipment and supply. With near real-time capability—such as access to the network—the cyclical indicators can be combined into indices, thereby eliminating the need for short term adjustments when a monthly index indicates a downturn in readiness. The composite indices will develop the relationship between the unit's capability to perform in an exercise or a campaign. Thus, the objective assessment can be compiled to achieve not only the goals of being accurate, timely, and objective but also to more validly predict the readiness of a unit.

Finally, turning our attention to assessing DRRS' timeliness as required by Congress, we should further analyze DRRS. DRRS provides stakeholders a database to evaluate in "near real-time." The web-base database is fed by updates from CCDR, Services and Combat Support Agencies. The mission assessment from the CCDR is updated on a monthly basis for active component units and on a quarterly basis for reserve component units. Data that support these unit assessments are provided "near real-time," so the personnel accounts are as accurate as the latest input into personnel data base. Likewise, the equipment database and maintenance database provide real-time information because these systems are web-based and programmed to reach out and grab data from a live system. Thus, DRRS achieves the goal of providing data in a timely manner.

Although DRRS software does not fully satisfy the Congressional goal, the DRRS system allows the CJCS to evaluate DoD components through a methodology that incorporates objective and subjective measures. For example, the processes of METL development and its

assessment from the CCDR to the Unit Transportation Code (UTC) level of an Air Force unit, to the installations, ports and such Combat Support Agencies as the Defense Logistics Agency enables development of a holistic perspective because DRRS links its METL up and down the chain of command based on the Universal Joint Task List. Thus UJTL provides consistency for units to be rated on their core tasks. In addition to consistency, it also gives units flexibility to create ad hoc tasks to support the Theater Support Cooperation Guidance laid out in a CCDR's strategy.

DRRS is really a system-of-systems. One of the systems within DRRS has the potential to reveal the true power of DRRS: The Enhanced Status of Resources and Training System. (ESORTS) uses a functional database to link computers to computers, removing the human input into this system. ESORTS provides a collective picture of personnel, equipment, and supply. It allows users to drill down to line item detail for supply actions. During training, units will use ESORTS to assess their METLs.⁵²

The future for DRRS holds promise because "ESORTS will not only track changes over time by keeping a change history of the MET descriptions and assessments, but also develop MET and METL assessment reports."⁵³ As previously mentioned, ESORTS provides near real-time information through a dynamic database, which assists the CCDRs to obtain a clearer picture of a unit's readiness at a given time. A system that forecasts and analyzes readiness will require developing a series of composite indices of indicators "to redeploy its resources and improve the U.S."⁵⁴ forces. Developing such a system will require a collaborative effort and many years to accurately depict the future condition of our forces. In constructing the leading series of indicators for economic trends, the U.S. Government has been working on a solution set since 1930.⁵⁵ This approach to analyzing current and future trends consists of a complex set of indicators. Such a system flies in the face of guidance provided by the Chairman of the Joint Chiefs of Staff Manual 3500.04C, Universal Joint Task List (UJTL), which states "keep measures simple."⁵⁶

More importantly, viewing the readiness cycle by means of a series of indicators will "enable us to distinguish turning points in these series from idiosyncratic movements."⁵⁷ To continue the previous example, a fall in air crew qualification ratings not in connection with a leading and a coincident indicator will reduce knee-jerk responses. To provide more clarity, these indicators should be grouped to arrive at composite indices.

The criteria for establishing a composite index is rather complex. Although no composite index will be perfect, the purpose is to predict a future event. The objective is to arrive at collection of data that can be mathematically and statistically configured, thereby allowing raw

scores to be converted to a standard from which a unit reports its capability to achieve mission success. Statistically, the composite index has performed well in the economic market; it has predicted periods of recession and growth.⁵⁸ The goal of measuring the “unit’s performance or effectiveness” is to translate the measurement into a deliverable product, a useable outcome.⁵⁹

Even with sophisticated methods of creating composite indices, there is still a need to look at all the data. Robert Hall, Chair, National Bureau of Economic Research Business Cycle Data Committee sums up the need to avoid looking at just a single indicator by stating

Why not replace all this agonizing over a multiplicity of measures with a simple formula—say, define a recession as two consecutive quarters of decline in GNP? Any single measure is sure to encounter special problems just when they matter the most.... We plan to stick with examining all of the data we can and making an informed judgment.⁶⁰

Further guidance from DoD Directive 7730.65, Department of Defense Reporting System, directs the Combatant Commanders to “develop mission essential tasks or similar indicators” for all assigned missions as well as Joint Mission Essential Tasks (JMETs) based on the Universal Joint Task List.⁶¹ Military services may use “MET-like constructs, such as Navy Primary Mission Area and Air Force Designed Operational Capability Statements.” In addition, the Services are directed to “identify core competencies and mission essential tasks.” Thus, this directive establishes the cornerstone for measuring readiness through the development and subsequent assessment of METLs.

Likewise, the ability to develop a composite index for METLs from assigned and apportioned units gives the CCCR a prediction of unit readiness. Developing a composite METL index will allow commanders to predict the readiness of a unit during the JQRR scenario review. A composite index minimizes individual fluctuations within units and provides a better aggregate picture.

As previously mentioned the armed services had no real ability to forecast a unit’s readiness. A proposal from the Institute for Defense Analyses recommended forecasting readiness for each of the services based on a METL. The Services would measure an Air Force Wing, a Navy Battle Group, an Army Division, and a Marine Task Force.⁶² The report defined readiness as “the ability of a unit to deliver the outputs for which it was designed.”⁶³ In other words, when two or more services combined, the overall readiness would be derived from each units designed capability whereas training readiness was “the ability of a unit to perform assigned tasks to a given standard.” This report had the foresight to focus on not only measuring the Combatant Commander’s METL but linking it to the supporting commander’s METL. In this report, the Combatant Commander is the customer and the Service Component

Commander is the supplier. More importantly, the report identified weaknesses within the old system known as Status of Resources and Training System (SORTS). This system did not allow the customer to track the readiness of the major suppliers, such as Combat Support Agencies, supporting commands or fleets. Secondly, the training readiness did not center on the accomplishment of a task; rather it relied on three different criteria for training readiness: “percentage of mission-essential tasks trained, percentage of crews that are mission qualified, and training time in days required to bring unit performance in mission essential tasks to standard.”⁶⁴

The proposed solution was to introduce a top down process from the CCDRs to apportioned and assigned units. Additionally, the CCDR shares the Joint Mission Essential Task Lists (JMETLs) with the supplier of services (Combat Support Agencies). The objective was to create an iterative cycle, a loop, among the essential key players: CCDR, Services and Combat Support Agencies. To handle a variety of missions, the study recommended that the Services to develop a METL linked to the JMETL, to identify core competencies, and to specify tasks for ad-hoc missions.⁶⁵

The complexity of training readiness is evident in the extrapolation of individual pilot readiness to combat readiness of an aviation wing. Future complexities are even addressed in the dual missioning of apportionment—that is being apportioned to more than one CCDR. Missing, however, are the second-and-third order effects of unit capabilities falling off the mission plan when the assessment reveals these units do not meet the standards.⁶⁶

Even with a joint readiness system that incorporates the various recommendations, a monitor is required to take appropriate action on the indicators. At the Joint Chiefs of Staff level, this monitoring requires critical thinking; the monitoring should synthesize the measurements to ensure that they are meeting the objectives of the National Military Strategy. The CJCS must look to the CCDR’s report of joint readiness, which is defined as the “commander’s ability to integrate and synchronize ready combat and support forces to execute assigned missions.”⁶⁷ Supporting service component commanders, on the other hand, see their mission as unit readiness, which is “the ability to provide the capabilities required by CCDR commanders to execute their assigned missions.”⁶⁸

Is DRRS a better way to measure readiness? First, DRRS provides the Department of Defense a better way because it enables the Combatant Commanders to leverage the Universal Joint Task List along with a capability to measure assigned or apportioned units and assess Combat Support Agencies’ METL. The UJTL is a vital asset that provides a connection between the tactical and strategic levels of war. Secondly, DRRS provides the Chairman’s

Readiness System a reliable assessment tool for reporting the readiness of Combatant Commanders. Moreover, in the Army, the time is now to link the readiness measurements with the Army Force Generation (ARFORGEN) cycle. Hence, cyclical indicators will help confirm and predict the readiness of a unit. Without such a measurement, the Commander's judgment remains at best an intuitive call based on ad-hoc analysis. In fact, the reasons for mission success and more likely the reasons for mission failure will not be identified. Still DRRS provides an umbrella over many different processes from which the CJCS and the Secretary of Defense are informed of a unit's mission essential tasks for the current month, for 12 months later and for a specific scenario. Not only is the Secretary of Defense informed, but the Congress is also provided similar information, fulfilling the law to report on the readiness of military forces to conduct the Nation's Military Strategy.

To improve the commander's ability to assess readiness, I recommend that a separate study be undertaken to determine the components of leading, lagging and coincident composite indices; the resulting measurements should then be incorporated into a new monthly readiness review. The composite indices will be linked to the mission performances of deployed units. For units not deploying, linkage between readiness assessment and scenario assessment should determine capabilities to accomplish missions. My recommendation, therefore, is not to eliminate the scenario but to link appropriate indices of indicators to the scenario to identify capability shortfalls. While predictive analysis is not completely accurate, identifying the relationship between cause and effect using lagging, leading and coincident indicators increases the chances of getting a clearer picture of readiness. Furthermore, capturing wartime readiness and linking it to predicting future readiness is critical to executing the long war, the Global War on Terror. We will need such a system to keep the Armed Forces on track, along the global road to war. We have all seen powerpoint diagrams with the arrow dashing from the lower left to the upper right representing the road to war. Instead of a road to a war, DRRS has the capability to put us on the road to the global war on which we can continuously assess and measure our readiness. The composite index should not be viewed as a technical solution for a commander's judgment; rather this index strengthens DRRS capabilities to provide a better tool for the CJCS not only to assess readiness but also to predict it. With an improved capability for predicting readiness, limited resources to improve readiness will be better allocated and more effectively used.

Endnotes

¹ John C. F. Tillson et al., *Independent Review of DoD's Readiness Reporting System*, (Alexandria, VA.: Institute for Defense Analyses, 2000), 6.

² "10 Questions for John Murtha," *Time*, 29 January 2007, 8.

³ Office of the Secretary of Defense, Personnel and Readiness, *Concept of Operations (CONOPS), The Defense Readiness Reporting System*, Draft Ver 5, (Washington, D.C.: 2004), 11.

⁴ *Department of Defense Readiness Reporting System, United States Code Congressional and Administrative News*, 105th Cong., 2nd sess., 1998 (St. Paul: West Publishing Co., 1999), vol. 2, 1990.

⁵ *Ibid.*, 1991.

⁶ Although the law states the system will measure a unit's capabilities, deficiencies and risks, this broad measurement is carried out at the CCDR level in the DRRS.

⁷ In the new system the Armed Forces units are defined as a ship, a squadron, a company, a separate battalion or detachment in the Navy, Air Force and Army and Marines. In the new Defense Reporting Readiness System, an organization is defined as a "entity that has a mission and reports in DRRS." (Office of the Secretary of Defense, *The Defense Readiness Reporting System: Handbook for Conducting Mission Assessments in DRRS*, Version 5.0, (Washington, D.C.: 2005), 2.

⁸ C.W. Fulford, Jr., *Chairman of the Joint Chiefs of Staff Instruction, CJCSI 3401.01B*, (Washington, D.C., 19 June 2000), GL-6, available from http://www.dtic.mil/doctrine/jel/cjcsd/cjcsi/3401_01b.pdf; Internet; accessed 10 December 2006.

⁹ *Ibid.*

¹⁰ John C. F. Tillson et al., *Independent Review of DoD's Readiness Reporting System*, (Alexandria, VA.: Institute for Defense Analyses, 2000), 24.

¹¹ *Ibid.*

¹² Keith Reimer, *Defense Readiness Reporting System*, Briefing, Slide 5, available from http://www.tecom.usmc.mil/qtb/metls/DRRS_brief.pdf; Internet; accessed 9 October 06.

¹³ Andrew E. Tucci, *Measuring Readiness: An Evaluation of a New Coast Guard Oil Spill Preparedness Assessment Tool, Including Application for Maritime and Other Contingencies*, A Thesis, Master of Marine Affairs, University of Washington, School of Marine Affairs, 2004) 44.

¹⁴ The Conference Board, *Business Cycle Indicators Handbook*, (New York, The Conference Board, 2000), 14, available from http://www.conference-board.org/pdf_free/economics/bci/BCI-Handbook.pdf; Internet; accessed 21 September 2006.

¹⁵ *Ibid.*

¹⁶ U.S. Department of Defense, “*INSTRUCTION Number 1304.30*,” (Washington D.C., Under Secretary of Defense for Personnel Readiness, 2006) 5. available from <http://www.dtic.mil/whs/directives/corres/pdf/130430p.pdf> Internet; accessed 4 March 2007.

¹⁷ Andrew E. Tucci, *Measuring Readiness: An Evaluation of a New Coast Guard Oil Spill Preparedness Assessment Tool, Including Application for Maritime and Other Contingencies*, A Thesis, Master of Marine Affairs, University of Washington, School of Marine Affairs, 2004) 59. Ibid., 59.

¹⁸ Ibid.

¹⁹ Jack H. Hiller, Howard McFann and Lawrence McFann, “Does OPTEMPO Increase Unit Readiness” in *Determinants of Effective Unit Performance: Research on Measuring and Managing Unit Training Readiness*, eds. Richard F. Holz, Jack H. Hiller, and Howard H. McFann, (Alexandria, U.S. Army Research Institute for the Behavioral and Social Sciences, July 1994), 72.

²⁰ Ibid., 78

²¹ Ibid.

²² Richard F. Holz, Jack H. Hiller, and Howard H. McFann, eds, *Determinants of Effective Unit Performance: Research on Measuring and Managing Unit Training Readiness* (Alexandria, U.S. Army Research Institute for the Behavioral and Social Sciences, July 1994), 1.

²³ Ibid., 2.

²⁴ Jack H. Hiller, “Deriving Useful Lessons from Combat Simulations,” in *Determinants of Effective Unit Performance: Research on Measuring and Managing Unit Training Readiness*, eds. Richard F. Holz, Jack H. Hiller, and Howard H. McFann, (Alexandria, U.S. Army Research Institute for the Behavioral and Social Sciences, July 1994), 9.

²⁵ Ibid.

²⁶ Tim Bonds et al., *Measuring the Tempo of the Mobility Air Forces*, (Santa Monica: Rand, 2005), 1.

²⁷ Ibid., xii.

²⁸ Ibid., 4.

²⁹ Ibid., 4 & 21.

³⁰ Ibid., 15.

³¹ Frank F. McCallister, Joyce L. McCallister and Robert D. Pridgen, *Evaluation of the Inventory and Accountability of Practices of Common Support Equipment Throughout Pacific and Atlantic Fleets*, (Monterey, Naval Postgraduate School, March, 1997), 1.

³² Ibid., 4.

³³ Ibid.

³⁴ Ibid., 41-42.

³⁵ Ibid., 43-44.

³⁶ John C. Tillson, et al., *Independent Review of DoD's Readiness Reporting System*, , (Alexandria, Institute for Defense Analyses, 2000), C-25, available from <http://handle.dtic.mil/100.2/ADA406574>; Internet; accessed 24 October 2006.

³⁷ Office of the Secretary of Defense, Personnel and Readiness, *Concept of Operations (CONOPS), The Defense Readiness Reporting System*, Draft Ver 5, (Washington, D.C.: U.S. Department of Defense, 2004), 52.

³⁸ The DRRS Home Page, available from <http://drrs.org>; Internet; accessed 2 November 2006.

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ DRRS *Software User's Manual*: (n.p., 26 September 2006) 1.

⁴² Ibid., 3.

⁴³ Ibid., 4.

⁴⁴ Ibid., 50-54.

⁴⁵ Ibid., 144-45.

⁴⁶ Office of the Secretary of Defense, *The Defense Readiness Reporting System: Handbook for Conducting Mission Assessments in DRRS*, Version 5.0, (Washington, D.C.: 2005), 7.

⁴⁷ Ibid.

⁴⁸ *Department of Defense Readiness Reporting System, United States Code Congressional and Administrative News*, 105th Cong., 2nd sess., 1998 (St. Paul: West Publishing Co., 1999), vol. 2, 1998.

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⁵⁰ Ibid., 16.

⁵¹ Office of the Secretary of Defense, Personnel and Readiness, *Concept of Operations (CONOPS), The Defense Readiness Reporting System*, Draft Ver 5, (Washington, D.C.: U.S. Department of Defense, 2004), 3.

⁵² Office of the Secretary of Defense, OUSD Personnel and Readiness, *A Primer for Leaders: The Defense Readiness Reporting System (DRRS)*, (Washington, D.C.: U.S. Department of Defense, 2006), 5

⁵³ Ibid, 17

⁵⁴ The Conference Board, *Business Cycle Indicators Handbook*, (New York, The Conference Board, 2000), 2, available from http://www.conference-board.org/pdf_free/economics/bci/BCI-Handbook.pdf; Internet; accessed 21 September 2006

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⁵⁶ U.S. Department of Defense. *Chairman of the Joint Chiefs of Staff Manual, 3500.04C: Universal Joint Task List (UJTL)*, (Washington D.C., U.S. Joint Chiefs of Staff, 2002), B-B-3.

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⁶³ Ibid., 1.

⁶⁴ Ibid., 3.

⁶⁵ Ibid., 6.

⁶⁶ Ibid., 13.

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⁶⁸ Ibid.

